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TITLE: Multiple layer cluster dither matrix for reducing artifacts in printed images

Application Filing Date (1):  
19960920Brief Summary Text (22):

In accordance with a still further aspect of the present invention, a computer program product for producing a halftone image from a digital data file includes a computer usable medium having stored thereon computer readable program code to generate a pattern of dots for each of a plurality of colors wherein the pattern of dots varies as a function of the input density of each of the plurality of colors, a computer usable medium having threshold values of a clustered-dot dither matrix stored thereon, the clustered-dot dither matrix having a plurality of matrix cells with first ones of the plurality of matrix cells forming a first layer of the clustered-dot dither matrix and second ones of the plurality of matrix cells forming a second layer of the clustered-dot dither matrix and wherein first ones of the matrix cells in the first layer lie along a diagonal axis of the clustered-dots dither matrix and first ones of the matrix cells of the second layer lie along a second different diagonal axis of the clustered-dot dither matrix. The computer program product further includes a computer usable medium having stored thereon computer readable program code to compare values from the digital data file to threshold values of corresponding matrix cells in the first layer of the clustered-dot dither matrix and a computer usable medium having computer readable program code to compare values from the digital data file to values of corresponding matrix cells in the second layer of the clustered-dot dither matrix. With this particular arrangement, a computer program which allows printing of color images having reduced image artifacts and ink bleeding characteristics is provided.